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We claim:

1 A chip for functional genomics for DNA testing and which holds DNA samples comprising, in combination:

a silicon base,

5 an oxide layer on the base, and

a hydrophobic fluorene polymer coating on said oxide layer,

said coating having openings therethrough down to said oxide layer for holding DNA samples.

- 10 2. The chips of claim 1 wherein said coating is substantially 100 Å.
 - 3. The chip of claim 1 wherein said openings in said coating have been formed using a positive photoresist.
 - 4. The method of forming a chip from a silicon substrate for holding DNA samples comprising the steps of:

forming an oxide layer on the substrate,

forming a hydrophobic fluorene polymer coating on said substrate, and

etching away said coating down to said oxide layer in spaced apart positions to

20 hold separate samples.

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- 5. The method of claim 4 wherein said step of forming said coating includes the steps of applying a coating of said polymer on said oxide layer and positioning said polymer coated surface of said substrate close to but not in contact with a baking plate, incrementally moving said coated surface and baking plate into full contact and holding the contact to bake the polymer coating on said oxide layer.
- 6. The method of claim 4 wherein said etching step includes a positive resist process.
- 7. The method of claim 5 wherein said etching step includes a positive resist process.